

Fig. 1a

BASIC LS-APGD SOURCE OPERATION

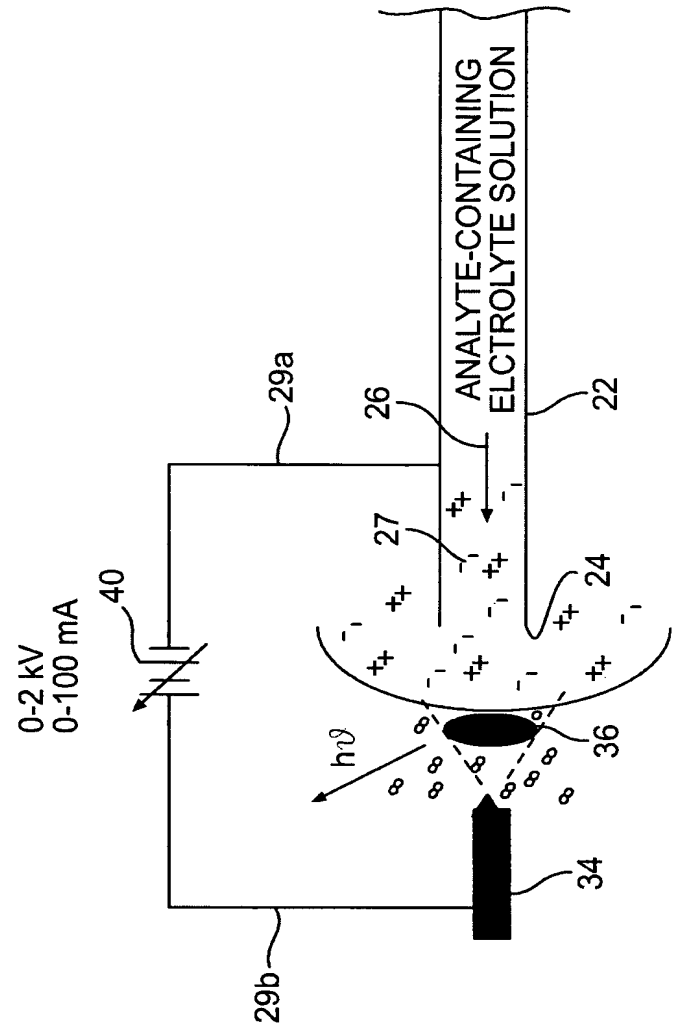


Fig. 1b

PROPOSED IMPLEMENTATION OF LS-APGD
WITH MICROFLUIDIC DEVICES

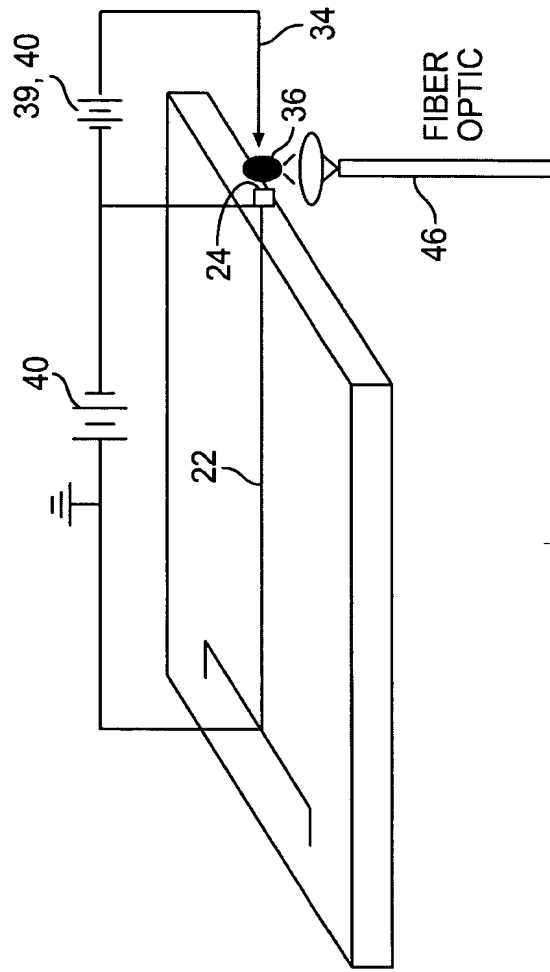


Fig. 1c

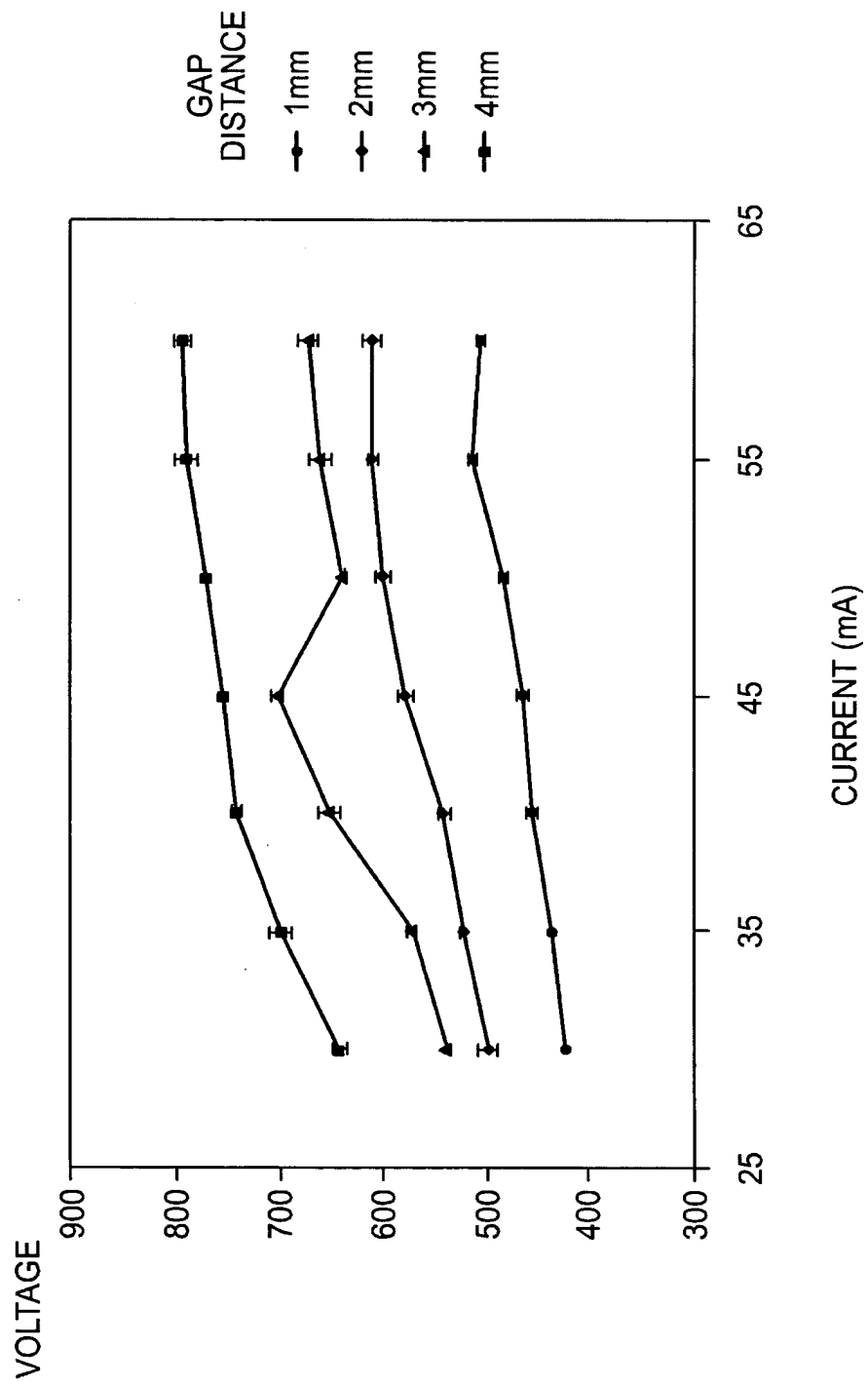


Fig. 2a

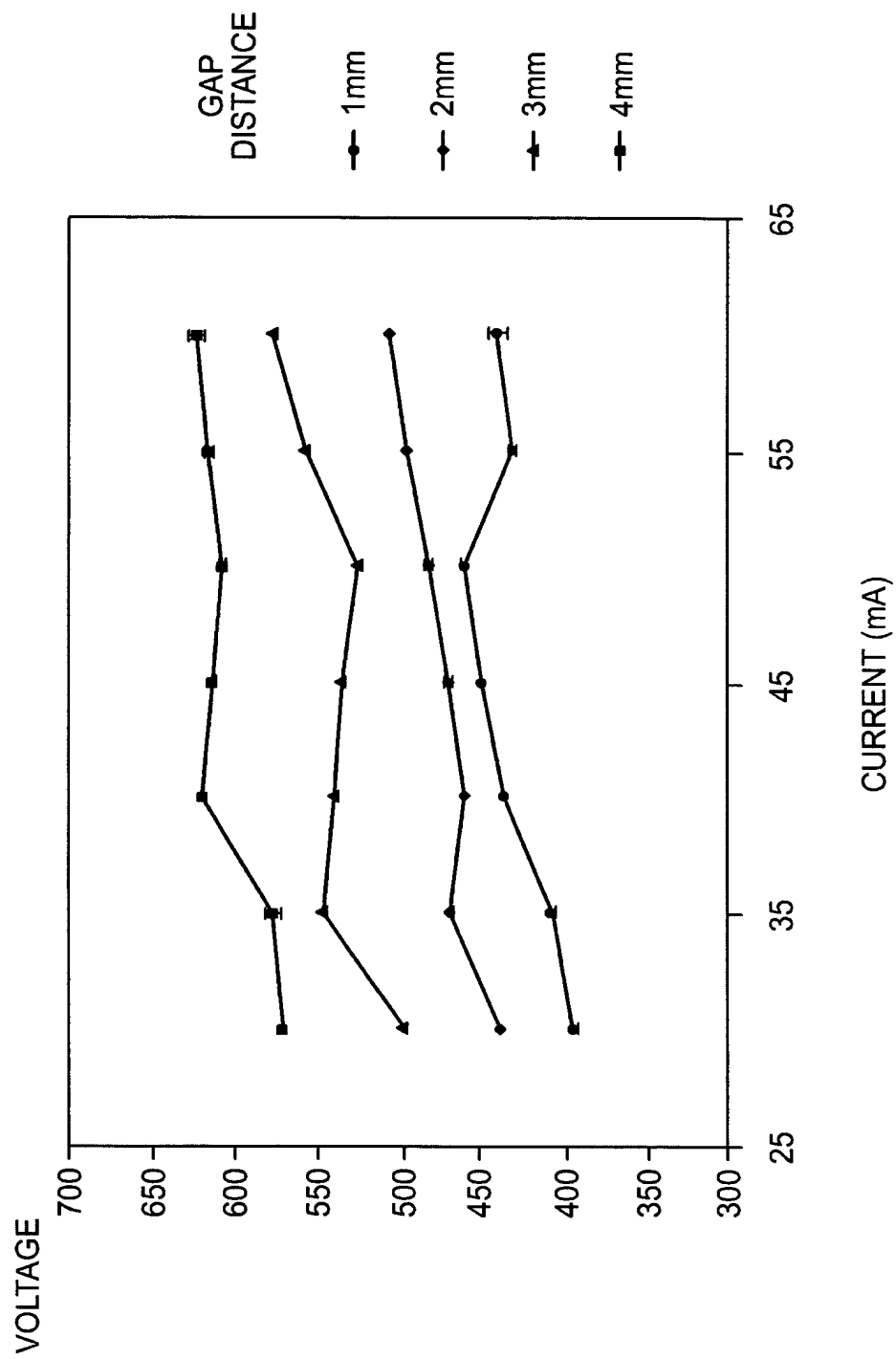


Fig. 2b

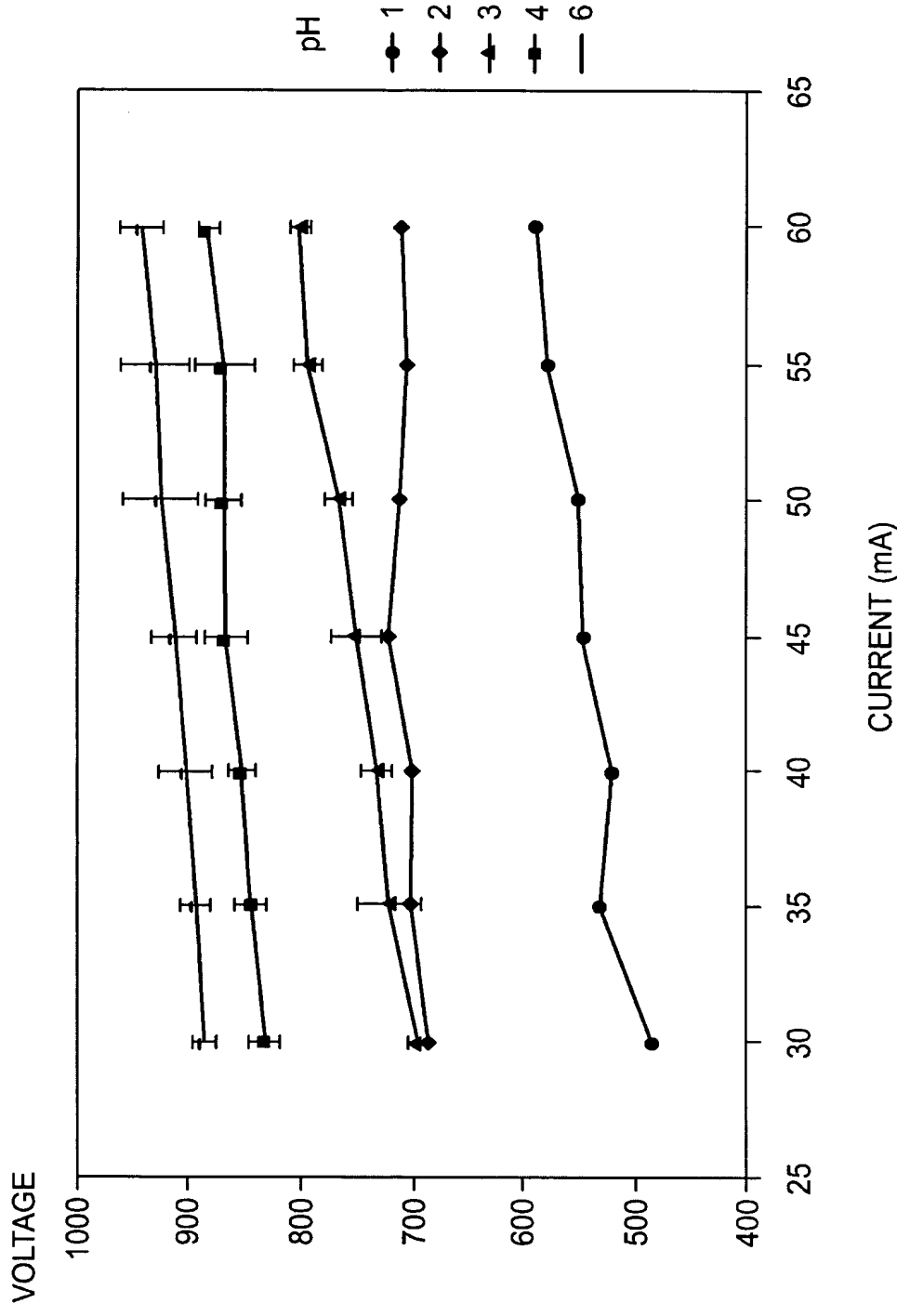


Fig. 3a

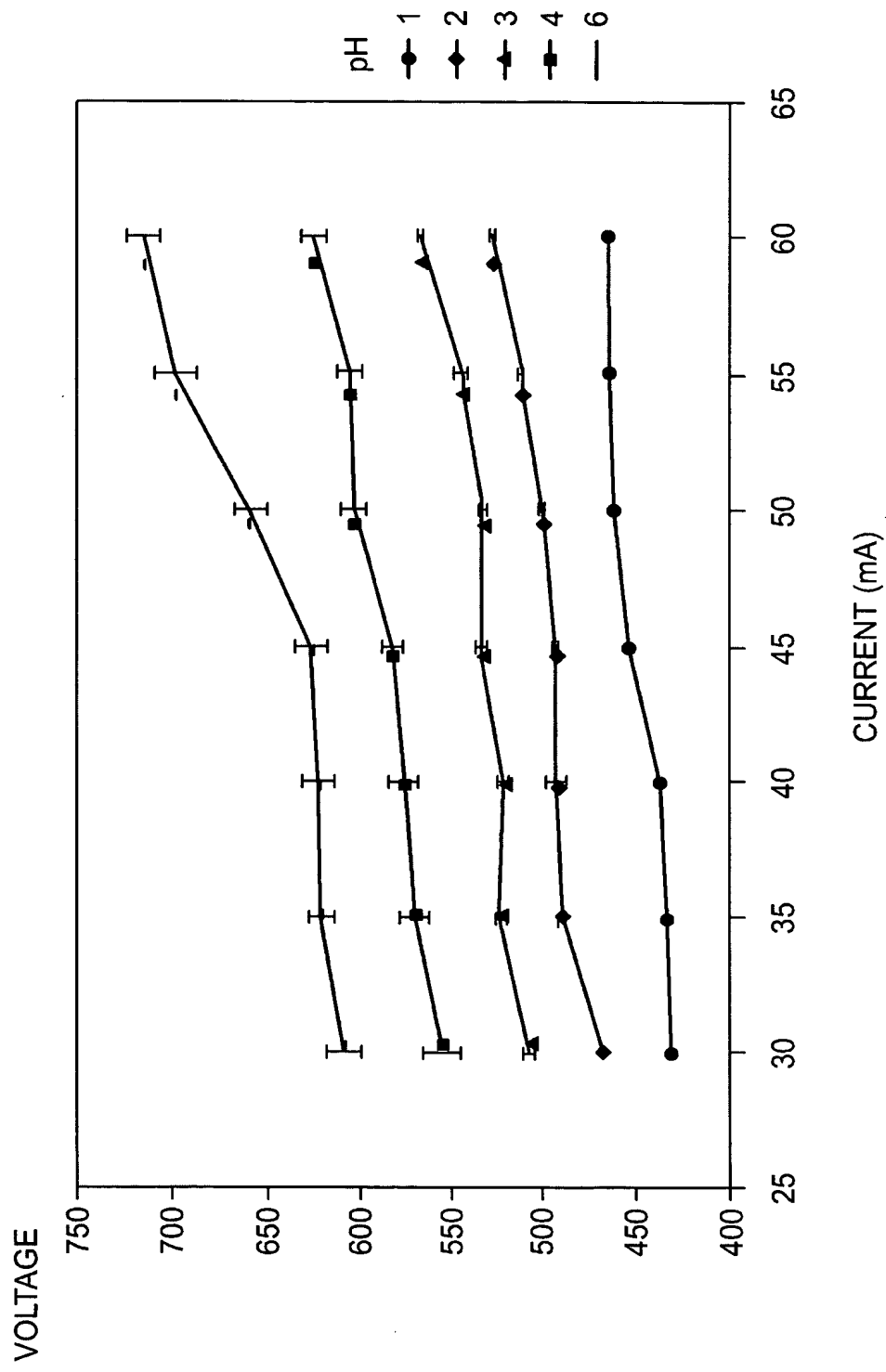


Fig. 3b

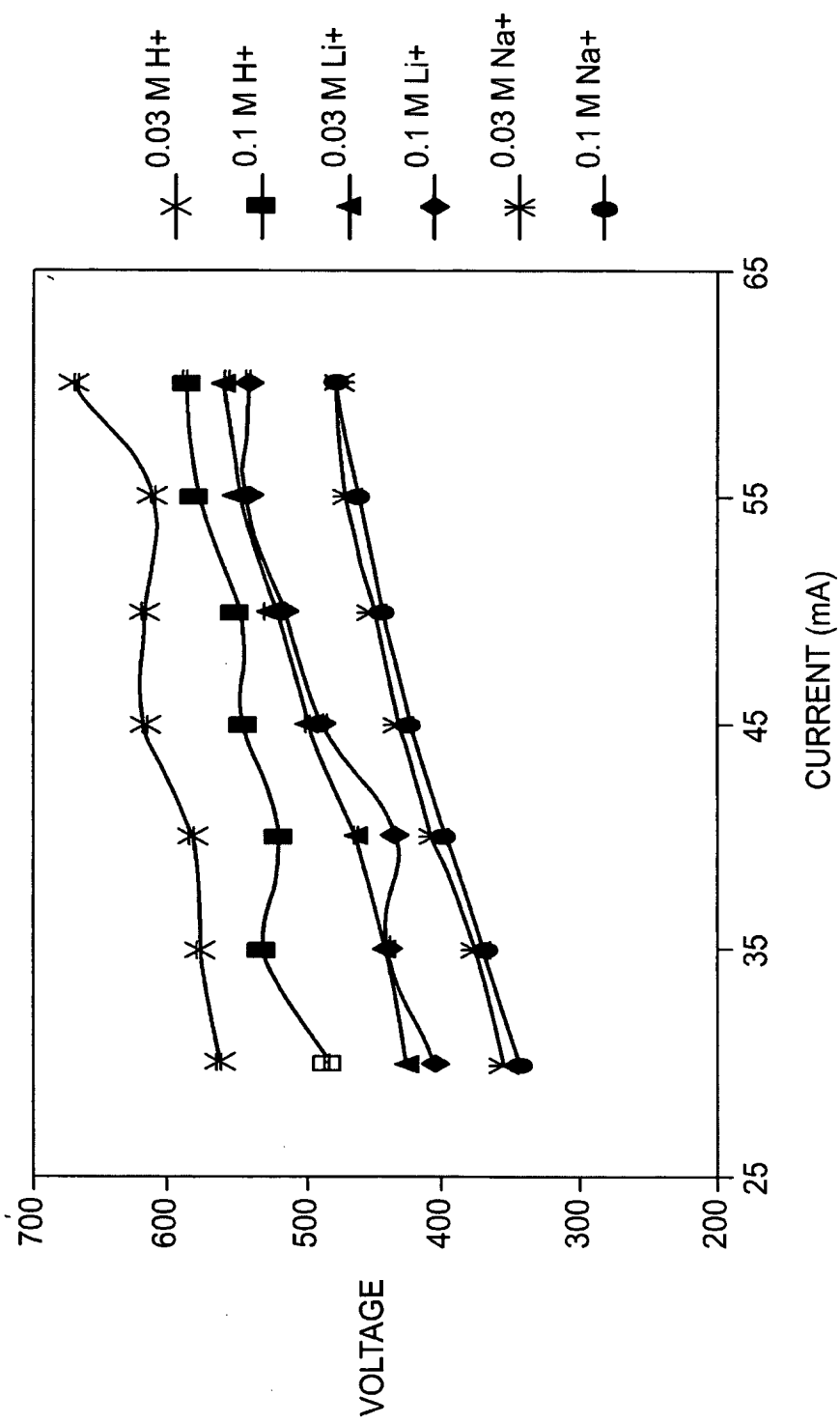


Fig. 4a

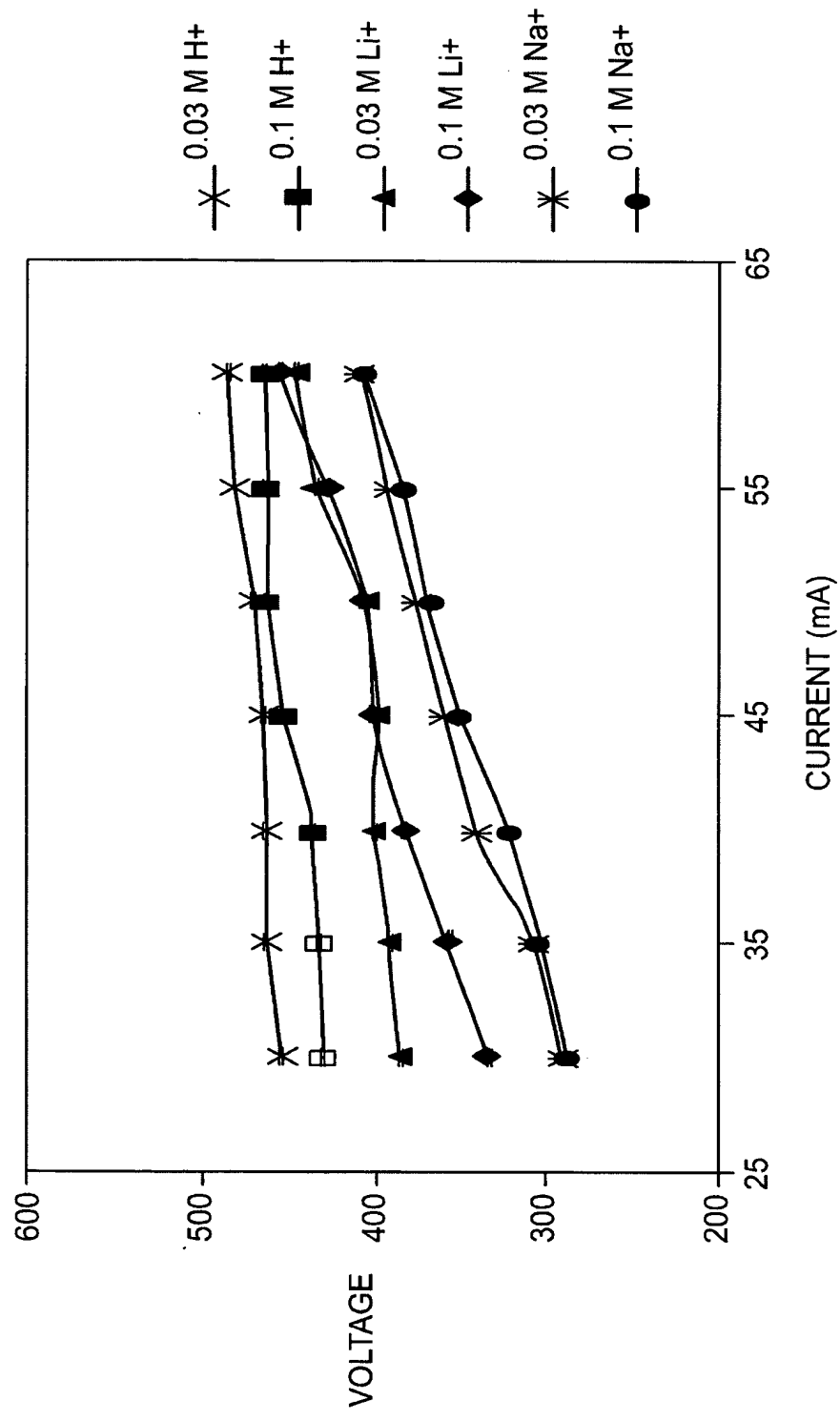


Fig. 4b

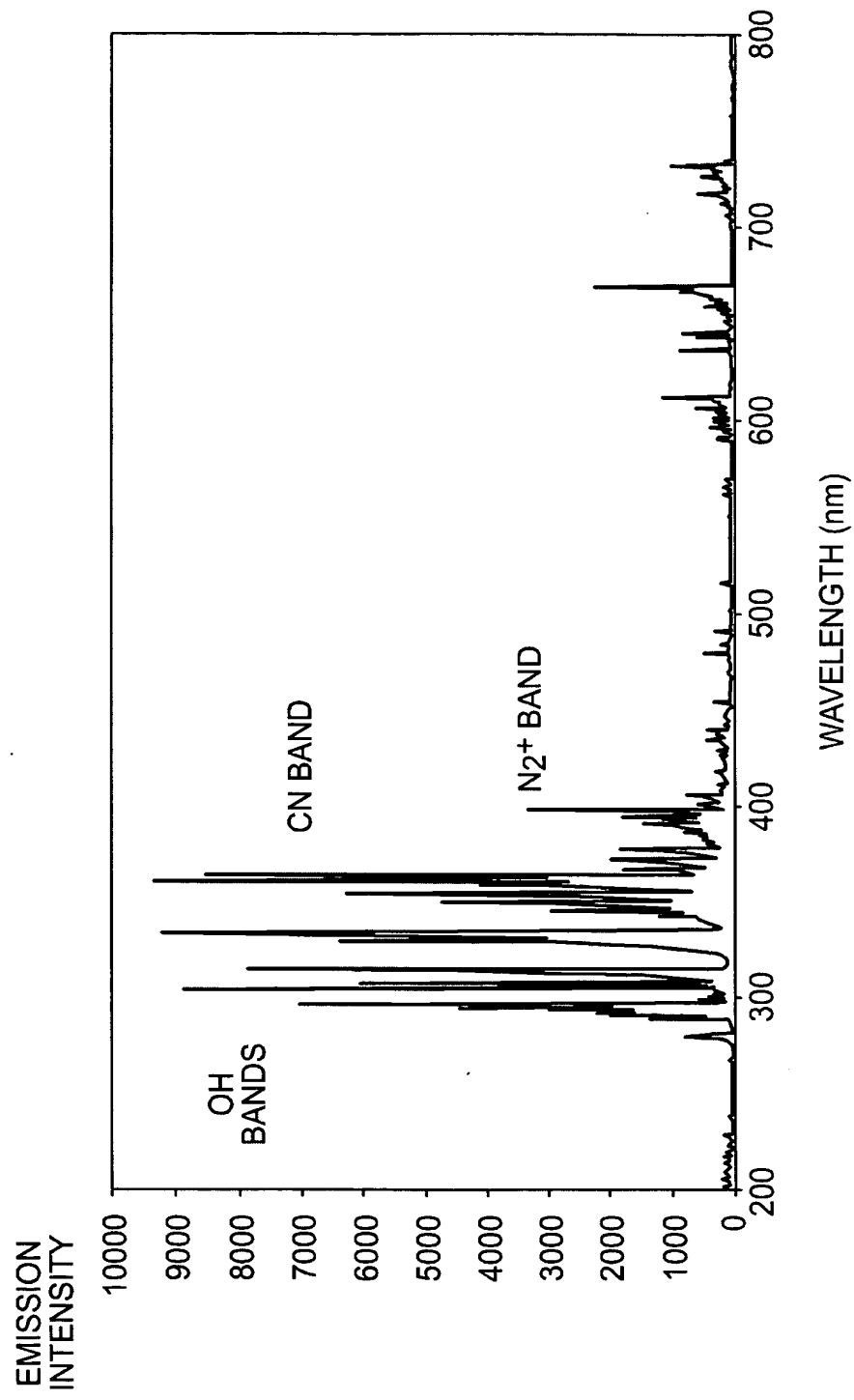


Fig. 5

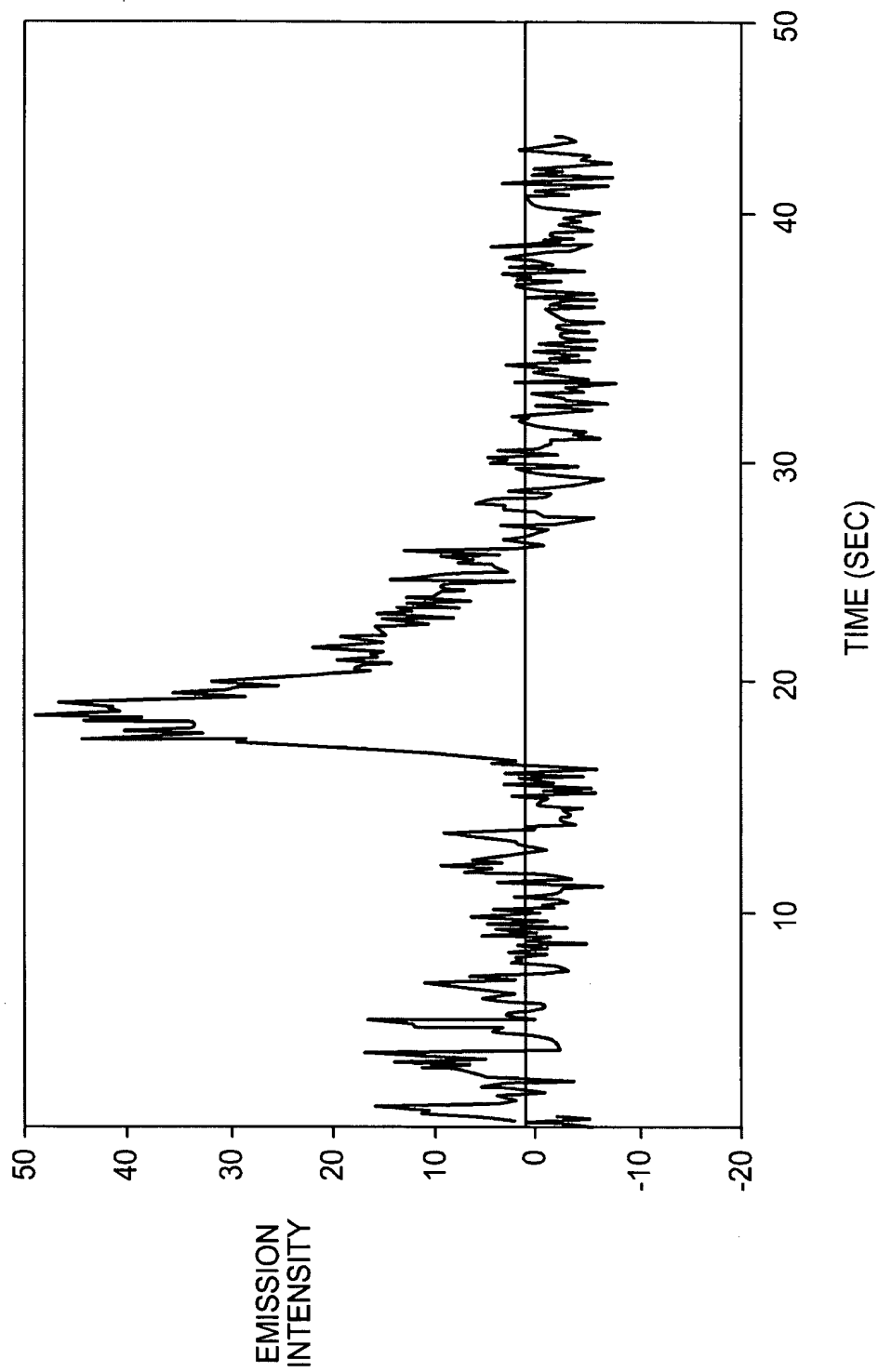


Fig. 6

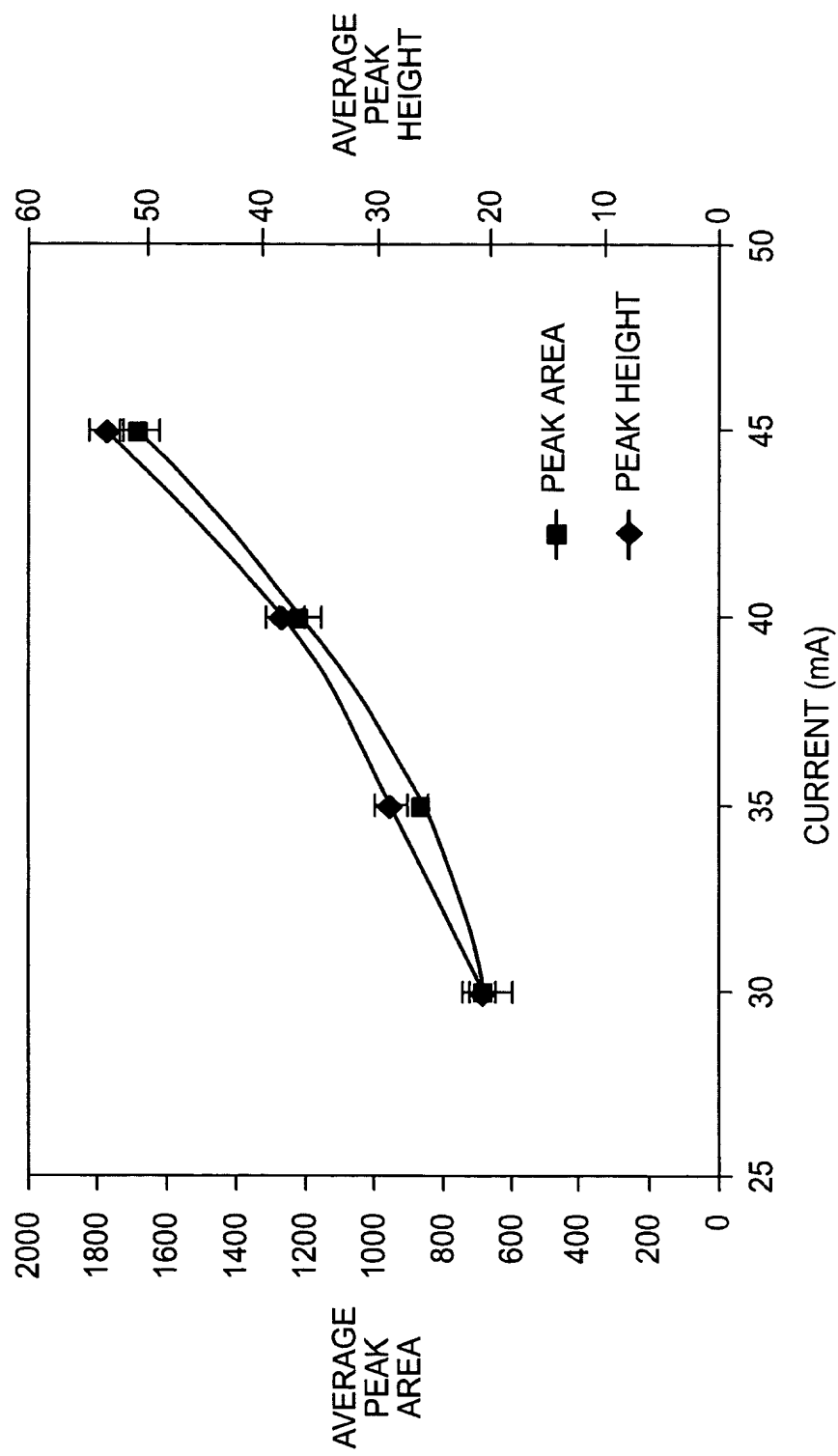


Fig. 7

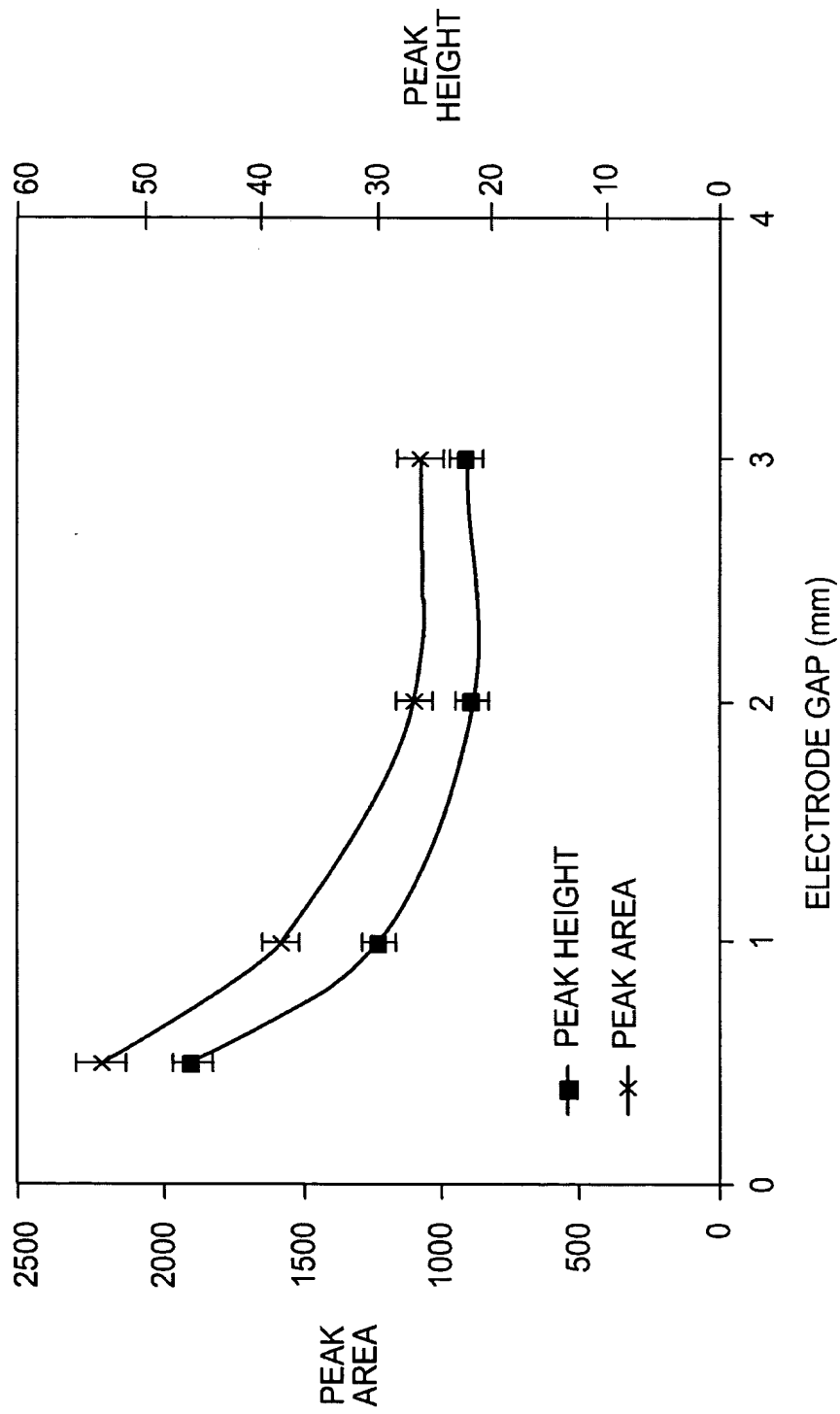


Fig. 8

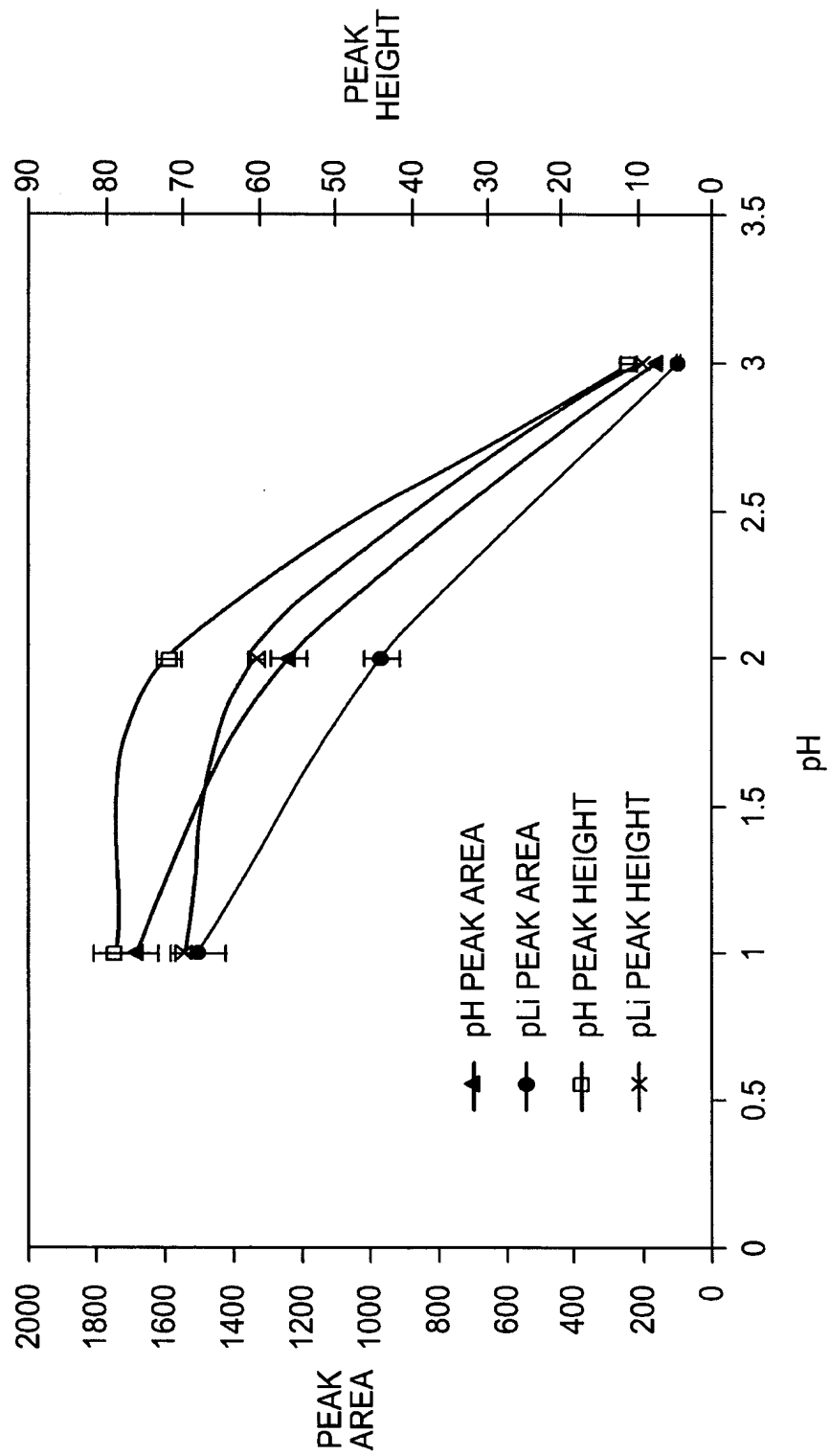


Fig. 9

REPLACEMENT SHEET

ANALYTICAL RESPONSE FUNCTIONS AND LIMITS OF DETECTION FOR THE LS-APGD DEVICE.
 SOLUTION FLOW RATE = 1 mL/MIN., ELECTROLYTE pH = 1, INTER ELECTRODE GAP = 1 mm,
 INJECTION VOLUME = 5µL.

ELEMENT	WAVELENGTH (nm)	PEAK HEIGHT EQN. R ²	PEAK AREA EQN. R ²	LOD ppm (ng)
Na	589.0	Y=0.421x + 42.8 0.9859	Y=15.81x + 978.6 0.9784	12 (60)
Fe	248.3	Y=1.06x - 102.1 0.9365	Y=45.80x - 6649 0.909	12 (60)
Pb	405.8	Y=1.18x - 10.45 0.977	Y=16.16x - 419.7 0.9298	14 (70)

Fig. 10

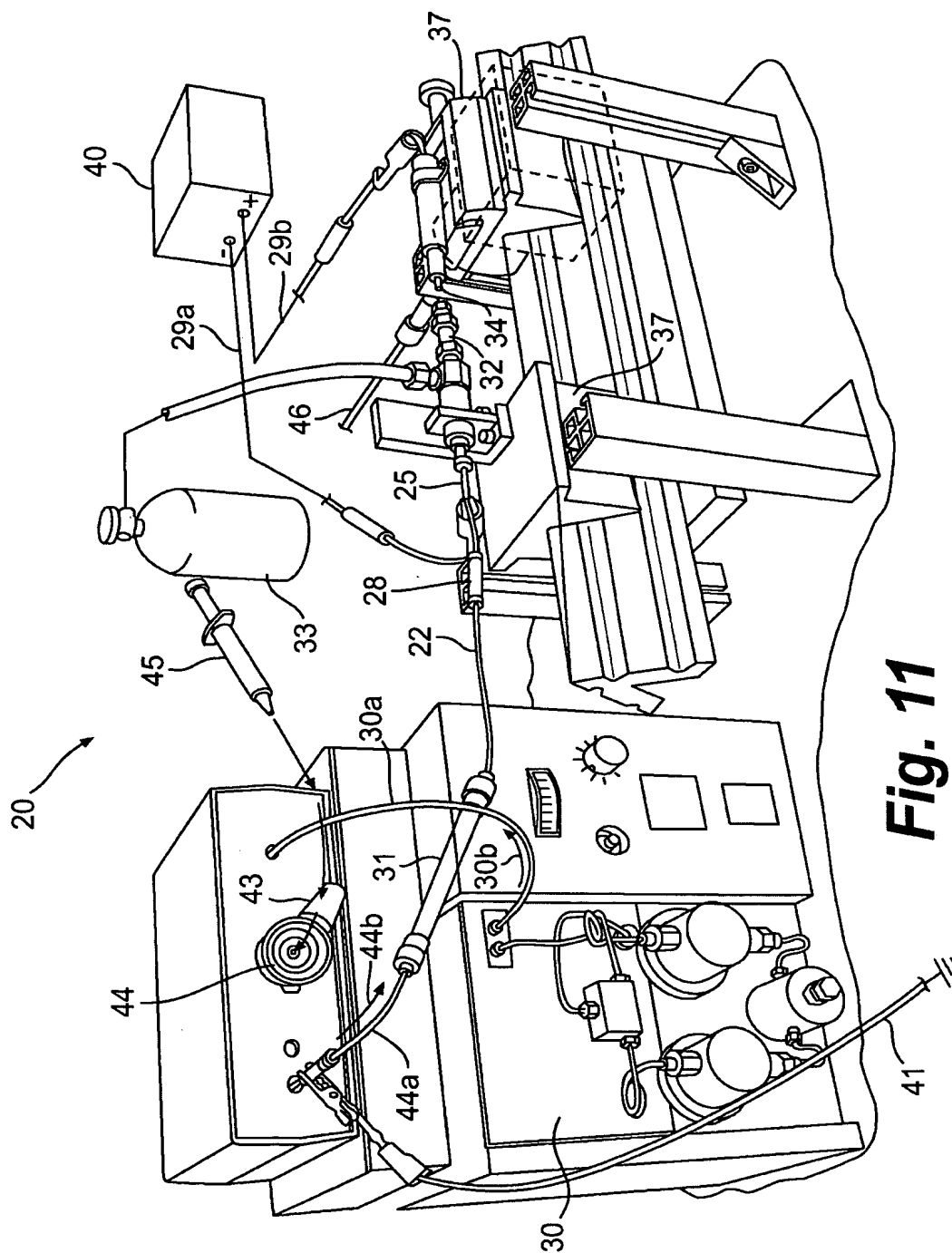


Fig. 11

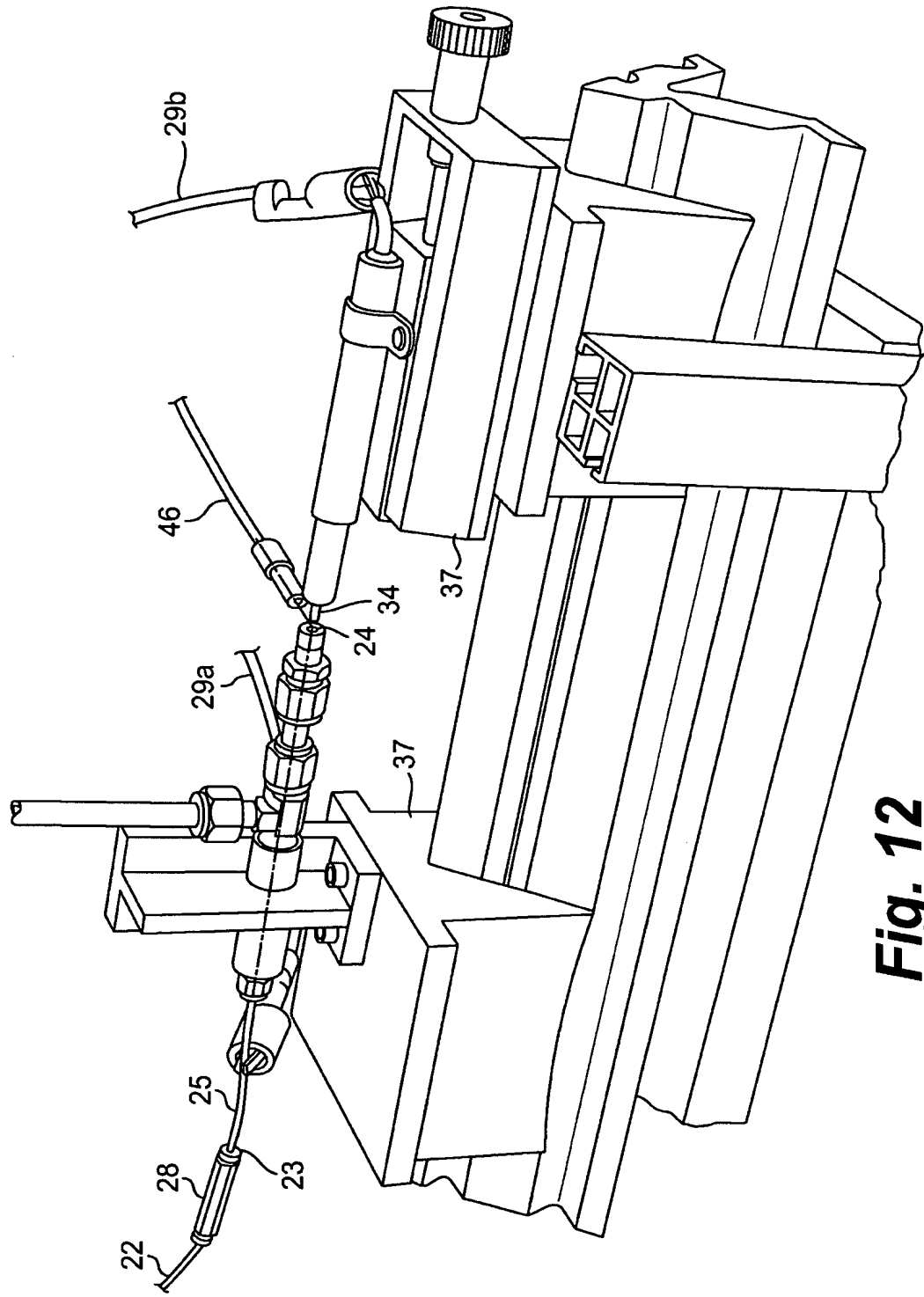


Fig. 12

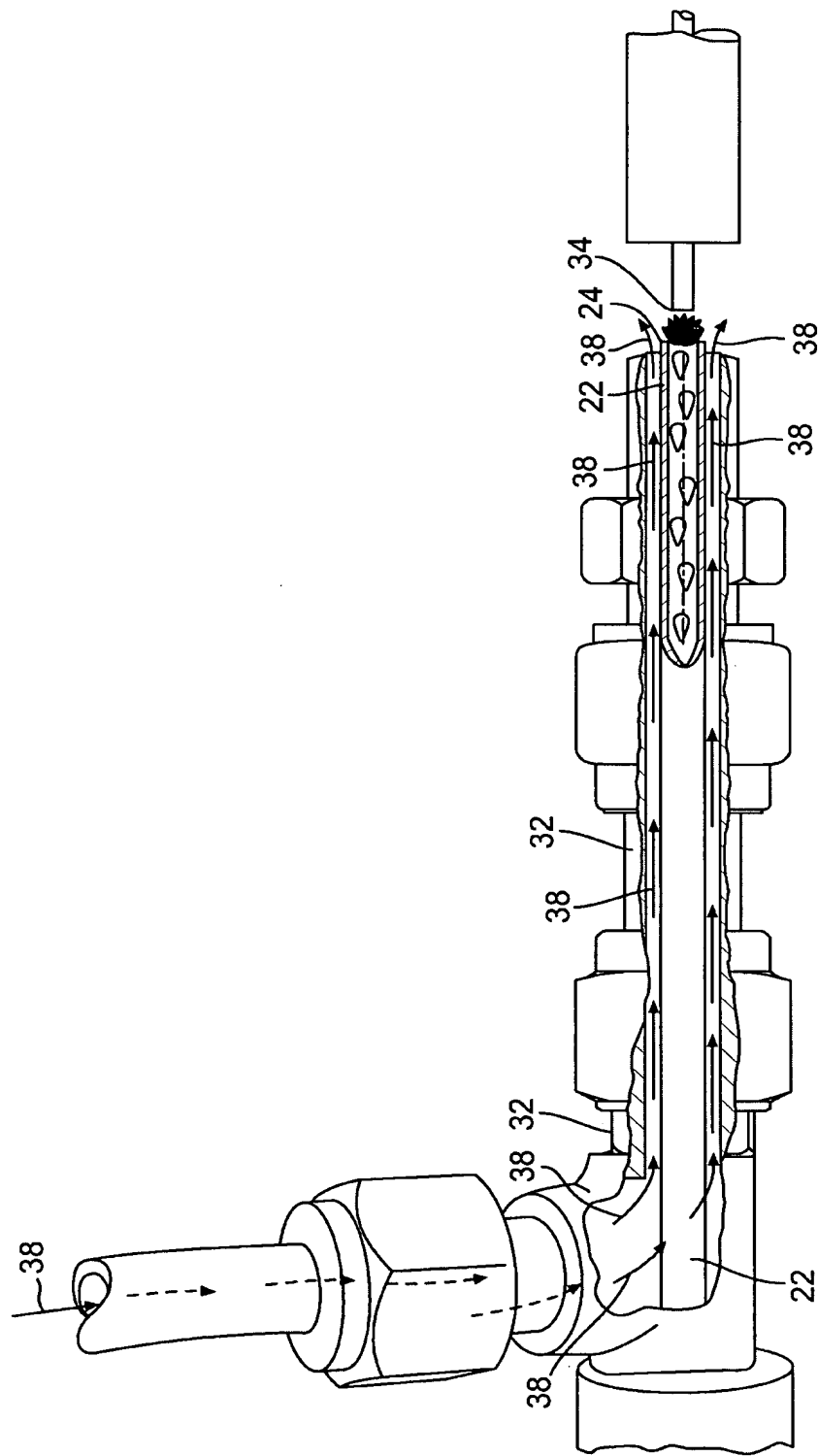


Fig. 13

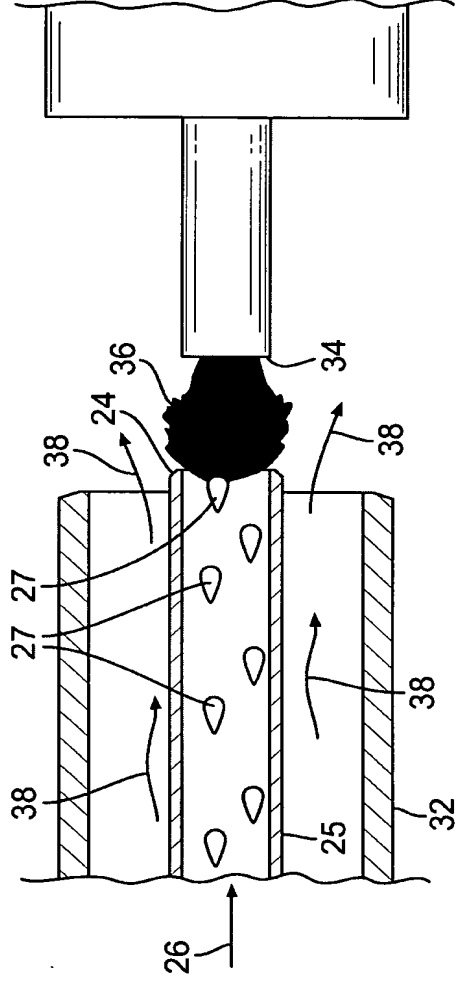


Fig. 14

REPLACEMENT SHEET

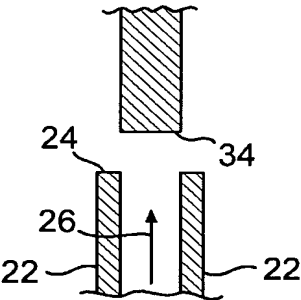


FIG. 15A

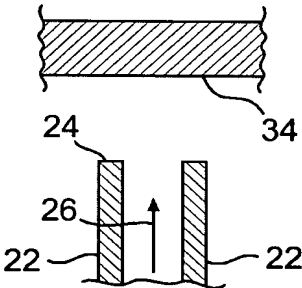


FIG. 15B

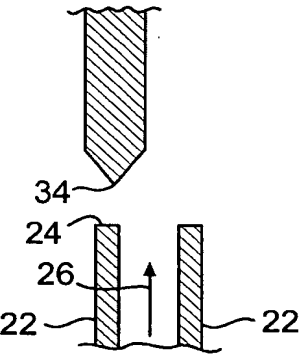


FIG. 15C

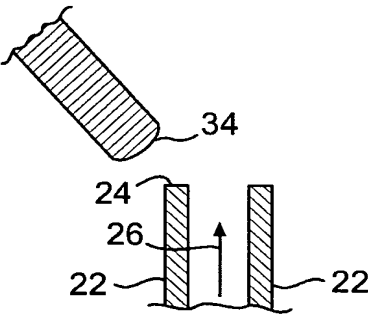


FIG. 15D

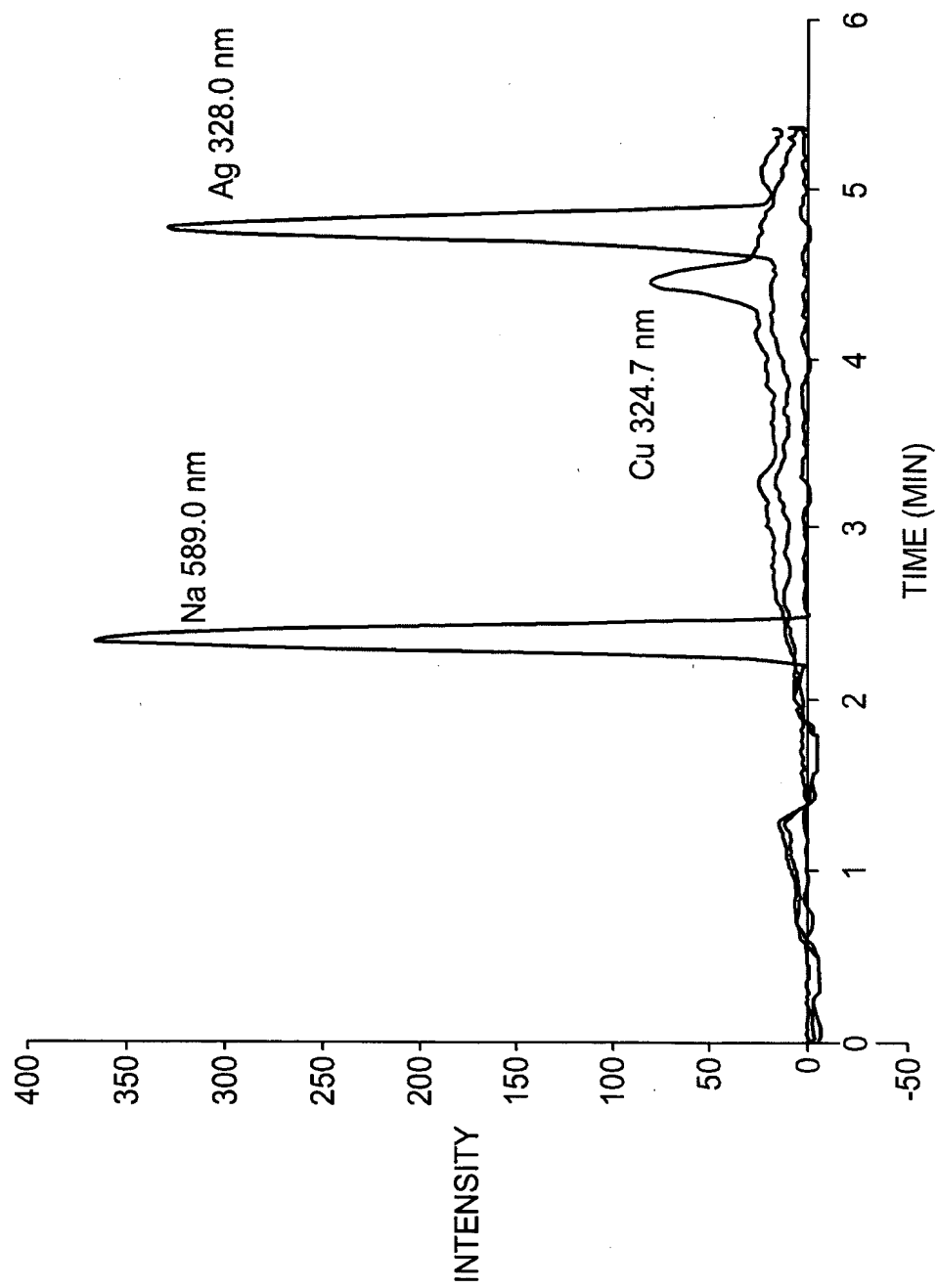


FIG. 16